EPO Opportunities Associated with Space Science Research Grants

Dr. Leonard Strachan

(Smithsonian Astrophysical Observatory)

Overview

- Organization: Who we are
- Space Science Projects (at SAO and GSFC)
- Current EPO Activities
- Proposed Activities
- Useful Project Web Sites
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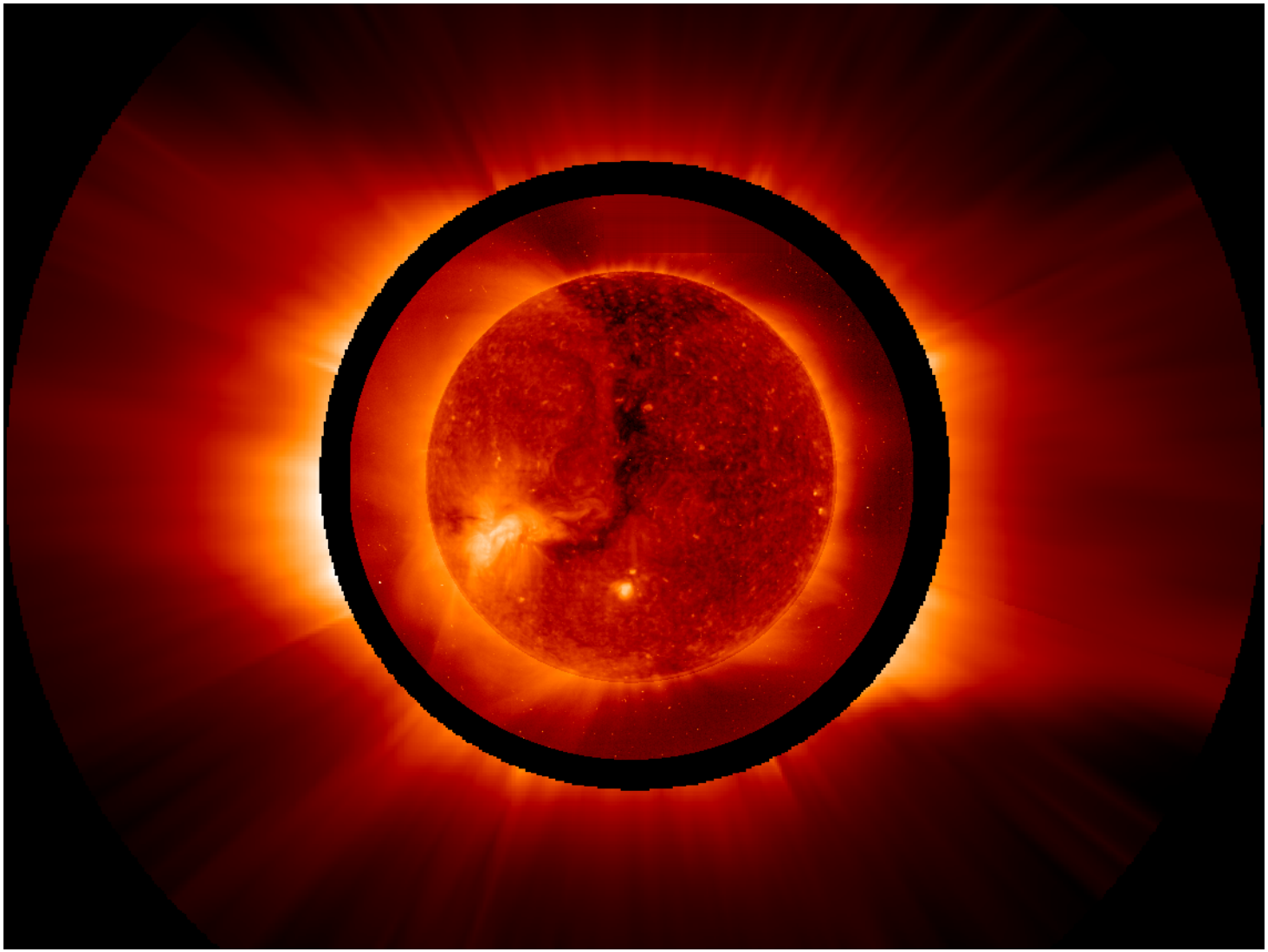
Organization: Who we are

- We are a research group at SAO involved with the investigation of fundamental properties about the solar wind and solar corona using space-based solar instruments.
- The group is headed by Dr. John Kohl (PI) with 23 scientists and technical support staff at SAO in Cambridge and at NASA/Goddard Space Flight Center.
- The group has 20+ years of experience with flying solar coronagraphic instruments on rockets and spacecraft.
- Co-Investigators are from Italy, Switzerland, Belgium

EIT/UVCS Image of Corona



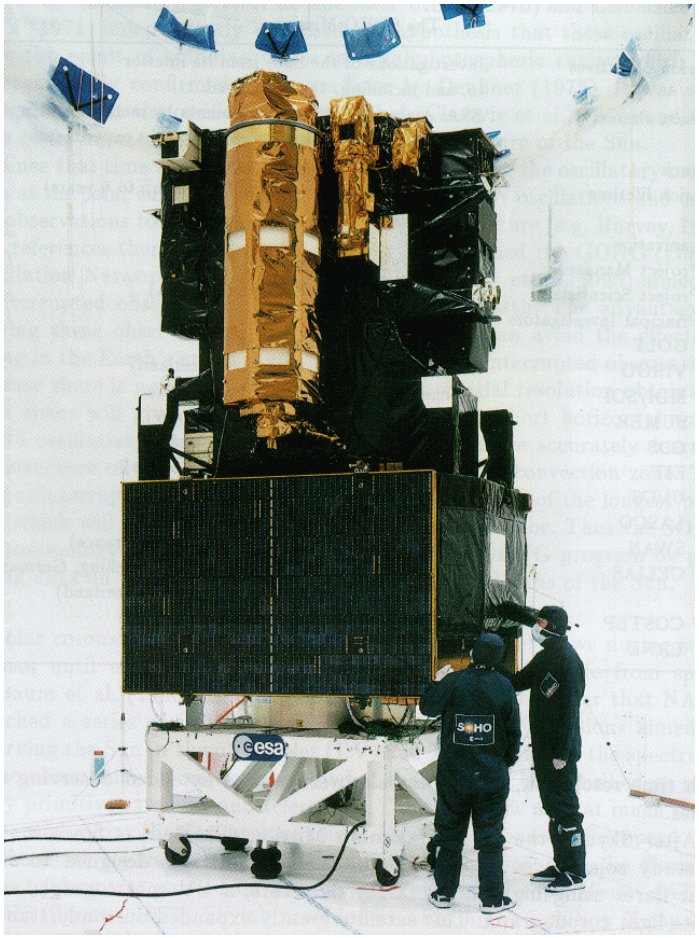
Space Science Projects at SAO & GSFC

Present solar coronal/solar wind projects include:

- Spartan 201/Ultraviolet Coronal Spectrometer Experiment
  - Shuttle deployed and retrievable spacecraft
  - Five space shuttle flights from 1993 to 1998

- Ultraviolet Coronagraph Spectrometer (UVCS) on the Solar Heliospheric Observatory (SOHO)
  - In orbit at L1 Lagrange point 1.5 million km from earth
  - Near-continuous science operations since 1996

Pictures of Spartan and SOHO



1. UVCS/Spartan 201 in flight above the shuttle
2. UVCS/SOHO in the cleanroom

Current EPO Activities

- HBCU student training in solar research topics at the SOHO Experiment Ops Facility at NASA/Goddard

- Internet based tutorials for analyzing UVCS/SOHO data
  - Includes UVCS/SOHO "Users Guide"
  - IDL data analysis software
  - Access to UVCS/SOHO solar coronal data

- "Ask an Astronomer" Web site
  - Provides answers to space related questions from students and teachers

EPO Activities (cont'd)

- Students can participate on the UVCS/SOHO program, learning about all phases of research including:
  - Identifying a scientific objective for the observation
  - Planning observations to accomplish the objective, based on expected solar intensities and instrument sensitivities
  - Reducing UVCS/SOHO observations to remove instrumental effects and to produce physical parameters of the corona
  - Constructing empirical models for particular coronal feature or object being investigated

Proposed EPO Activities

Future EPO Activities will include the following:

- Strengthening partnerships with HBCUs to provide:
  - Student mentoring
  - Faculty collaborations
- Establishing a Sun-Earth Connection (SEC) Student Research program (aimed at high school students)
- Establishing a SEC Teacher/Scientist Forum
- Developing an EPO CD-ROM with Education guide

UVCS/SOHO Web Page

Project Web Sites

- UVCS/SOHO Web Sites:
  `http://cfa-www.harvard.edu/uvcs`
  `http://sohowww.nascom.nasa.gov`

- UVCS/Spartan Web Sites:
  `http://cfa-www.harvard.edu/cfa/spartan`
  `http://umbra.nascom.nasa.gov/spartan`

- ASCE Web Site (Proposed MIDEX):
  `http://cfa-www.harvard.edu/asce`

Get Involved!

- Contact: Dr. Leonard Strachan
  lstrachan@cfa.harvard.edu
  617-496-7569

-OR-

- Fill out the information on UVCS/SOHO Web site:
  http://cfa-www.harvard.edu/uvcs